

Applicability of IETF-Defined Service and Network Data Models for Network Slice Service Management

draft-ietf-teas-ns-models-applicability-03

S. Barguil (*Nokia*), L.M. Contreras (Telefonica), **V. Lopez (*Nokia*)**, O. Gonzalez de Dios (*Telefonica*), M. Boucadair (*Orange*)

Contributors: D. King (Old Dog Consulting), R. Rokui (Ciena)

IETF#127, San Francisco, November 2026

What's New in -03

Scope: how IETF YANG data models are combined to manage RFC 9543 Network Slice Services. The NSC maps NSSM requests to service (L3SM/L2SM) and network (L3NM/L2NM) models; the document identifies gaps and covers alternative NSC architectures.

-03 is a readability and accuracy pass. No change in scope.

- **Abstract and Introduction rewritten**: one-paragraph abstract, plus a section roadmap
- **QoS text aligned with RFC 9182 / RFC 9291** (5.2.1): rule id, match criteria, target-class-id
- **Slice identifier aligned with nbi-yang-26**: slice-service id mapped to transport-instance-id (Section 7)
- **Corrections**: figure/section cross-references, RFC 9543 vs. nbi-yang model (Section 3), TLS reference (RFC 8446)
- **Editorial**: citation format, terminology (NSC, NSSM, LxNM), figure captions, typos

Abstract: Before and After

-02: ~170 words, 3 paragraphs

- "exemplifies how … can be combined"
- Nested parentheses in the main sentence
- "a request for a Slice Service request"
- Mapping direction stated backwards
- Gap analysis only in the last sentence
- Four different names for the slice
- No mention of NSC architectures

-03: ~85 words, 1 paragraph

This document describes how IETF-defined YANG data models can be used together to manage RFC 9543 Network Slice Services. It explains how a Network Slice Controller (NSC) translates a customer-facing Network Slice Service request into requests based on network models, such as the L3VPN and L2VPN Network Models, and how these relate to the corresponding service models. The document compares these models against Network Slice Service requirements, identifies gaps, and shows how the models apply in different controller architectures, including multi-domain deployments.

Gap Summary (Section 5.3)

NSSM capabilities with no native equivalent in L3SM/L2SM or L3NM/L2NM:

- **Reusable SLO/SLE templates**: policy reuse across slice services
- **SLO/SLE hierarchy**: inheritance and override per slice, connection group, connectivity construct
- **Connection groups**: coordinated control of several connectivity constructs
- **Customer-driven topology**: explicit topology constraints
- **Slice-level monitoring**: performance observation per slice
- **Feasibility check / test-only**: validate requests before instantiation

Takeaway

These are not limitations of LxSM/LxNM. They reflect a different abstraction level.

They are realized by NSC logic, orchestration, or additional models (topology, telemetry).

WG review of the identified gaps is welcome.

Multi-domain Mapping and Next Steps

At IETF 126 we asked the WG:

- Is the current mapping useful to illustrate multi-domain Network Slice realization?
- Would additional multi-domain examples help?

Status: little feedback so far, so we keep the current scope (Section 7) and have not expanded it in -03.

Ask: keep, expand, or remove? If expand, which scenario? Please reply on the TEAS list.

Draft Status:

- The alignment analysis is complete.
- All comments received have been addressed, feedback requested on the TEAS mailing list.
- No open technical issues remain.